TEXAS WATCH

Newsletter of Volunteer Environmental Monitoring Programs in Texas

February 1996

Texas Watch Monitors in Action

Texas Watch First Deaf Student Trained

Bill Moss, Texarkana College Earth Club member, assisted Delores McCright in certifying Texas' first deaf student in water quality monitoring. Chris Benton, a 7th grader at Pine Street Junior High in Texarkana, received his phase I and II training at Texarkana College and his Phase III training at Swampoodle Creek. Chris' teacher Beverly Moss, a Deaf Education teacher with Texarkana ISD, also received training and certification. The training is part of a mentor program initiated by Texarkana College Earth Club. ✲

Chris Benton demonstrates his titrating technique for dissolved oxygen.

Texas Watch and research on Swampoodle Creek

■ *James Vaitkus*

Not long after I moved to Texarkana, Texas, I was out getting familiar with the town and came across a sign reading "Swampoodle Creek". I thought to myself, "Boy, is that a weird name for a creek!" Doing most of my growing up in Louisiana, I knew what a swamp was, and this was no swamp. Plus, who ever heard of a poodle in a swamp? And if there were, it would not last long if there were gators around. Besides conjuring up monster poodle images, I did not realize that this encounter with Swampoodle Creek was not my last.

Upon starting college at Texarkana College that spring semester, I was asked by my Biology teacher, Delores McCright, if I would care to earn credited hours doing research on a local creek. I accepted the offer because it was something I longed to do. Little did I know the creek would turn out to be Swampoodle Creek. The Texas Watch program was being used prior to my research work, so I became certified in order to use it in my research. Water samples were also taken back to the lab and viewed under a microscope and the microorganisms viewed were

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Letter from Gayla, Texas Watch Program Coordinator...

Texas Watch was officially 5 years old February 2 and it is hard to believe I have coordinated Texas Watch for almost half that time! The successes of the program are in large part due to each and every volunteer and partner statewide as well as the dedicated central office staff and TNRCC regional representatives. Thank you! I want to apprise you of changes which have taken place within TNRCC and the Texas Watch central office since the August/September newsletter. This will allow us, as Lady Bird Johnson says, "... to continue to share our mutual interests and reach our aspirations."

Until recently, Texas Watch has been unable to fill the communications coordinator position vacated by Steven Hubbell, our renowned newsletter editor, as well as the vacancy left by Joan Drinkwin. Joan, our nonpoint source project coordinator, left in early December to gain greater experience in working with communities on a watershed basis with the Puget Sound Water Quality Authority. She is missed tremendously and we wish her the best! These positions will be filled prior to the Meeting of the Monitors. Additional temporary staff reductions have kept the rest of us very busy. Presently, these changes are significantly reducing our ability to respond quickly, communicate frequently, and to provide the quality of support we are dedicated to delivering.

At our planning session last year, two of our goals were to maximize the use of data and to integrate volunteer monitoring with professional monitoring at the local and state level. To accomplish both of these goals, our work must be focused on fulfilling quality assurance requirements outlined in the QAPP by training more quality assurance officers, holding quality control sessions, and ensuring submitted data have met those requirements. In addition, we are working with entities across the state as well as TNRCC technical staff on integrating monitoring efforts. This year's Meeting of the Monitors is devoted to this goal.

These efforts combined with staff reductions have required us to make some very difficult decisions on prioritizing our work and ability to provide quality service. The following guidelines have been set until further notice:

- *Present volunteers not supported or partially supported by partners will continue to be supported by Texas Watch. Efforts will be made to obtain partner support and expand the partner base as appropriate.*

- *Any potential volunteers who have submitted monitoring plans (first step in becoming a volunteer) prior to September 1, 1995, but whom we have determined have full support of a partner will have their monitoring plan processed for approval. The backlog of paperwork is processed based on date of receipt at TNRCC.*

- *All potential volunteers who have submitted monitoring plans after September 1, with or without partner support, will not have paperwork processed at this time. Written notifications will be sent to the designated group coordinator.*

- *New and existing support of monitoring activity in grant specific areas will not be affected.*

Texas Watch staff, advisory council and partners will reexamine the present workload situation between mid-April and June 1. It is with great regret we must curtail the involvement of potential volunteers. However, the recent changes noted above and requests to participate in Texas Watch have outstripped our ability to provide quality customer service to volunteers and partners alike. It is of great importance to us to continue to provide the best service possible to those already involved with the program as well as to accomplish our goals.

We appreciate your understanding and patience. Thanks. Gayla.

My Life As A Frog

■ *by Paul Rodden*

During a March storm, I was sucked up a waterspout in Maine and spit out in a creek in Texas. I had no idea where I'd landed, but even a tadpole knows to be grateful for an escape from the thickening rime-ice of Belfast into the Austin sun.

My ten-week internship lasted eight months. I made the enchanted metamorphosis from un-degreed intern to degreed temp with all the fame and riches that accompany frogs kissed by princesses. Without exception, it has been a magical ride full of good people and new friends.

You, the volunteers, know how committed the Texas Watch staff in Austin is to your program. I have had the privilege of working with them, learning some of their skills, and observing (and hopefully absorbing) their values.

From the Meeting of Monitors in May in San Marcos, to training sessions throughout the state, to day-to-day service in the Austin office, I have witnessed a level of group commitment that transcends highly professional dedication.

I have also experienced the heart of the program—y'all, the volunteers. Especially in the last few months, as I've been filling in for Anne Rogers as volunteer coordinator, I have had the opportunity to speak and correspond with many present and future monitors, as well as the great folks who support our volunteers throughout the state. This connection with the diverse and special community of Texas Watch has been consistently inspiring. I am grateful for the training, experience, encouragement, patience, and trust of the Texas Watch staff. I have thanked them before and I thank them again. But let me acknowledge my greatest debt, to all the folks who go outside, get wet, get data, and bring it all home. ✲

"Rrrbbbbttt!!!"

National Volunteer Monitoring Conference

The beautiful campus of the University of Wisconsin in Madison will be the site for the Fifth National Volunteer Monitoring Conference, to be held August 3 to 7, 1996. Focusing on the theme of "Promoting Watershed Stewardship," participants will discuss the meaning of stewardship and explore ways to promote long-term stewardship through volunteer monitoring and restoration.

The conference steering committee is soliciting presentations related to the conference theme. Anyone interested in making a presentation should contact Celeste Moen (address below) to obtain an official conference abstract form, presentation guidelines, and a list of suggested topics. First priority will be given to completed abstract forms received by March 15, 1996. Abstract forms received after April 15, 1996 will not be considered. You may also contact Anne Rogers with Texas Watch for more information.

Volunteer monitoring program coordinators, volunteer monitors, community organizers, water quality professionals, teachers, and scientists are cordially invited to attend the conference. Dormitory facilities will be available for attendees.

To receive a conference brochure with complete registration information and/or conference presentation abstract form, please contact:

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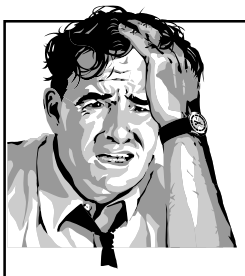
E-mail moenc@dnr.state.wi.us

Quality Assurance – New Changes for Texas Watch

Due to format changes required by EPA and in response to the changing needs of volunteer monitors, Texas Watch submitted a revised quality assurance project plan (QAPP) to the EPA in December, 1995. These changes, which Texas Watch expects EPA will approve in the first half of 1996, help streamline the quality control portion of monitoring. Here are some of the significant changes to the plan and what they mean to you, the monitor or partner.

- Quarterly duplicates schedule. Quarterly duplicate tests of all variables (except dissolved oxygen which is run twice every time) will now be conducted at the same time statewide. Regardless of when you began monitoring, all monitors will now conduct duplicates during March, June, September and December. This will help all monitors and partners keep up with one of the quality control requirements to maintain monitor certification by reducing confusion about when duplicates should be performed.
- New data categories. There are now two categories of data in the Texas Watch database. Category 1 are all data collected by Certified Water Quality Monitors who have met all QA/QC requirements. Category 2 data are all other data, such as Texas Watcher data collected by students.
- QC session options - location. All certified monitors are still required to attend two QC Sessions per year. You may now attend two laboratory sessions or one laboratory session and one field session during the year. These must be attended to maintain your certified status! Monitors, please remember it is up to you to attend these sessions. Contact Texas Watch at (512) 239-4741 or your partner to find out when sessions are scheduled.
- QC session options - equipment. It is still preferable to conduct a QC Session with a calibrated Hydrolab or other multiparametric meter, however, a designated (i.e., not used for anything else) QC test kit may now be used at station 3 as well. Monitors' test results will be compared to the QC test kit results. Tests with the QC test kit must be run at the beginning, in the middle and at the end of the session and the volunteers' results compared with the QC kit run closest in time. Attention QA Officers: You will soon receive an update on specific changes to the QC session and a copy of the new QAPP.

Once approved by the EPA, copies of the Texas Watch QAPP will be available to group coordinators and partners upon request. We urge all certified monitors and partners to become familiar with this plan! Please contact Anne Rogers at (512) 239-4741 with any questions regarding this document or to receive a copy. ✲



Quality Assurance (QA)?
Quality Control (QC)?
Quality Assurance Project Plan (QAPP)?)

"Confused About Quality?"

High quality information is the backbone of what makes the Texas Watch program so unique among citizen monitoring programs around the country. From the very beginning, Texas Watch has strived to ensure users of Texas Watch data that the data are of the highest quality and can be used alongside professional water quality data in a variety of ways. To reach this level of quality, Texas Watch monitors receive the same training and collect data in the same way across the state. The document which describes how monitors are trained, how they monitor, and what equipment they use is called a quality assurance project plan (QAPP).

Quality assurance and quality control (QA/QC) are used to implement the QAPP. Many times these two aspects of the QAPP are used interchangeably, yet they have different meanings. Quality assurance is the "big picture". It is the overall system Texas Watch implements to ensure data collected by volunteers are useful and reliable. Quality assurance guides the entire program from training to data analysis.

Quality control is a component of quality assurance. It refers to the activities or protocol performed during data collection which ensure the data collected meets the quality standard specified in the QAPP. Quality control is also the process by which Texas Watch documents the separate components in its quality assurance plan. For instance, the forms a trainer uses to document a volunteer's training or the data forms a monitor uses to record the field data are both examples of quality control. ✲

Expand your horizons! Energize your Earth Day!

...at the 1996 Meeting of the Monitors!

"Professionals and Volunteers: Working together for Watersheds"

Texas Watch and the Texas River and Reservoir Management Society (TRRMS) have teamed up this year to hold a joint conference in Fort Worth April 19-21 at the Ramada Hotel-Downtown. The annual Texas Watch Meeting of the Monitors will run concurrently with the TRRMS hosted North American Lake Management Society Region 6 conference.

Prior to this joint conference, TRRMS is hosting the first Region 6 Water Quality Monitoring Program Design Workshop, April 18 and 19. This meeting is partially funded by EPA Region 6 to address watershed based concepts and solutions through increased cooperation between State agencies, Councils of Government, River Authorities, private consultants, and environmental interest groups within Texas, Louisiana, Arkansas, Oklahoma, and New Mexico. Texas Watch participants are encouraged to attend this workshop. Both conferences will be devoted to networking, discussion, and information sharing.

The joint conference will begin Friday afternoon the 19th with registration, exhibits, posters, and an exhibitors reception.

Saturday will feature three conference tracks:

- practical how-to sessions for monitors;
- academic papers on lake, reservoir, river, and watershed management; and
- sessions focused on how volunteers and professionals can work together.

Keynote speakers include Mr. Charles Gardner, executive director of the North American Lake Management Society and Dr. Robert Carlson from Kent State University. Mr. Gardner will address pertinent environmental issues, including cooperative environmental work and Dr. Carlson, a nationally renowned scientist, will make a presentation on the "Great American Secchi Dip-In" which he initiated. Saturday the 20th will conclude with a festive Texas Watch awards banquet.

Sunday will give participants an opportunity to take half-day field trips. These may include the Lewisville Aquatic Ecosystem Research Facility, a tour highlighting the diverse features of the Trinity River Basin and tours highlighting the City of Ft. Worth's successful efforts in managing urban nonpoint source pollution. The annual Texas Watch partners' meeting will commence Sunday afternoon the 21st and conclude Monday afternoon the 22nd.

Registration, program agenda, travel and accommodation information will be distributed by mid-February. As always, the cost will be very reasonable. There will be separate registration fees for the TRRMS workshop and the Texas Watch and TRRMS joint conference with a reduced registration "package" fee for both events. There will be 30 spaces available for sponsor exhibits at the corporate, government and nonprofit organization level and will be awarded on a first-come, first-served basis. An additional 20 spaces are available for monitoring group displays and posters, free of charge.

Call for papers:

Presentations on any aspect of lake, reservoir, river, or watershed management is encouraged for presentation on Saturday, April 20th. Abstracts should be sent to the Program Chair by March 22, 1996 for inclusion in the printed program. If possible, please send a disk version (IBM Word Perfect or ASCII format). Please include:

- Title of presentation
- Authors and affiliation(s)
- Abstract of Text (250-word limit)
- Format preference (oral or poster)
- Address of author presenting paper (mail, phone fax, e-mail)

Program Chair:

Dr. Robert Doyle
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The environment is where we all meet; where we all have a mutual interest; it is one thing that all of us share. Whatever its condition, it is, afterall, a reflection of ourselves - our tastes, our aspirations, our successes, our failures.

Lady Bird Johnson

WE LOOK FORWARD TO MEETING YOU THERE ! ✲

The 1995 Texas Watch Report is out !

Environmental Monitoring in Texas: The 1995 Texas Watch Report is being distributed to group coordinators and partners, advisors, to TNRCC regions and divisions and to environmental management professionals around the nation. This is Texas Watch's second comprehensive program report. The report emphasizes the watershed approach through extensive volunteer data inventory and partner tables, basin summaries and activities for each of the 21 basins where Texas Watch is active. Data analysis of selected group data is also highlighted. The report should be used to request monitoring data from groups listed in the report as well as a tool to plan and implement future activities.

If your group representative has not received a copy of the report or you require an additional copy, please write to Texas Watch at the address provided at the end of this newsletter. ✲

Swampoodle Creek

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recorded on video tape and then identified. Testing for coliform was also done before I began my research. Data was shared with a local engineering firm. They also were testing the creek, but with more in-depth and sophisticated equipment. To this information I added additional monitoring sites and the biomonitoring techniques used by the City of Fort Worth.

I enjoyed the work so much I decided to do it again. This time I wanted to get a complete year's worth of data and add even more to my work. I attended a few workshops and read up on water studies. I am fascinated with benthic macroinvertebrates, and have added them to my studies. I also wanted to know about the plants found in and around the creek, along with the animals that use the creek, and even how humans use it. I am currently trying to identify the fish found in the creek's well. I am also making maps of the individual test sites of the creek, and I am working on finding out any historical references on the creek. I have been researching Swampoodle Creek for almost a year now and have enjoyed the outdoors and even more so the water. I hope to continue with my studies and with Texas Watch until it is time to move on to a major university. Even then I hope to always be a part of Texas Watch and the great opportunity that this program and Delores McCright have given me.

Jim Vaitkus taking a dip in Swampoodle Creek.

James is a sophomore at Texarkana College and a research student of Delores McCright. He has been studying Swampoodle Creek in Texarkana, TX for about a year. He is using the Texas Watch water quality monitoring kit, a storm drain kit, and doing benthic studies of macroinvertebrates for his research paper. In addition, he is studying, filming and classifying microorganisms in the creek. He will publish his research paper in the spring of 1996. He hopes to continue water quality studies when he transfers to a 4-year college. His major is environmental science. He resides in Texarkana, TX. ✲

Volunteers and professionals take action in: "The Case Of The Leaching Nitrates"

■ *Mike Lyday, City of Austin*

Seldom in science or, for that matter, any other of life's pursuits have events unraveled in such a storybook way. The discovery of chronic groundwater pollution brought a diversity of concerned characters together to solve this case of the leaching nitrates.

The account begins as do many other if you are working as an Environmental Quality Specialist for the City of Austin. A scientific investigation is precipitated by a political proposal-in this case, the reopening of McKinney Falls to public swimming. McKinney Falls was closed to swimming in 1981 owing to public fear of bacterial contamination from Austin's Williamson Creek Wastewater Treatment Plant just upstream of the falls. The plant was decommissioned in 1986, and the public wanted to know if swimming was now safe. In an effort to help Texas Parks and Wildlife Department with this decision and determine the safety of such a proposal, ECSD's Environmental Resource Management Division (ERM) initiated a water quality study of the seven watersheds contribution to the lower falls at McKinney Falls State Park.

No dangerous levels of bacteria were found in any of the watersheds feeding the falls, but a strange tenfold increase in nitrates was noted by ERM staff on both Williamson and Onion Creeks as the waters of these streams passed the Jimmy Clay golf course and the old Williamson Creek Wastewater Plant. The increase in nitrates was a concern, but they were not concentrated in the creeks high enough to be a health hazard. ERM's water quality report was distributed to all interested parties, and as recommended, McKinney Falls was soon open again for swimming. However, further investigations were advised to locate the cause of the nitrogen elevation in Onion and Williamson Creeks. Surges of nutrients or chronically high nutrient levels could lead to a river of algae at McKinney Falls.

A group of Colorado River Watch Network citizen monitors, led by D. W. Brown, took the initiative after reading ERM's report and began scouring the banks of Onion and Williamson Creeks, looking for high discharges in the vicinity of the nutrient elevation measured in the two creeks. Their search was fruitful, but the finding was bittersweet, because the springs they discovered were noxious with nitrates, measuring around 100 milligrams per liter (mg/1). The drinking water standard calls for less than 10 mg/1 of nitrates.

D. W.'s environmental watchdogs immediately called ERM, and we confirmed their disturbing discovery. Mixed feelings and speculations swirled through our heads. First, we were amazed and thankful that citizens, bent on protecting water quality and McKinney Falls, actually found this source of pollution. Wow, this citizen monitoring thing really does work! Then a sickening, sinking emotion began to seep into our minds. The foul springs were found near both Jimmy Clay golf course and the decommissioned Williamson Creek Wastewater Treatment Plant-both City of Austin facilities. Furthermore, Jimmy Clay was planning to expand their golf course onto the old treatment plant grounds. Would this finding nix those big plans? Was it nutrients from the golf course polluting this groundwater, or did it have something to do with a wastewater treatment plant that had been shut down for a decade?

Elementary it was not, my dear Watson, but ERM went to work to determine the source of the nitrates. We first looked at all the sources of water at Jimmy Clay, and no source was found to be particularly high in nitrates. We also found the contaminated springs relatively high in surfactants, a common detergent constituent found in wastewater, and no surfactants were detected in any water on the Jimmy Clay course. Well, it wasn't the water used at Jimmy Clay, but was it their fertilizer? ERM's next experiment propelled the investigation into that area of science known as the "cutting edge."

We compared the nitrogen isotope ratio (N15/N14) of the polluted spring water with the ratios of the fertilizer used on Jimmy Clay golf course and the sludge pit soils lying in the bottom of the dry wastewater settling ponds on the old Williamson Creek Wastewater Plant site. The ratios indicated the nitrates in the spring water were leaching out of the old wastewater sludge pits. Again, a mix of emotions was tugging away at us. Wow, this cutting edge science stuff really works, but what are we going to do about the pollution now that we know where it comes from?

(Continued on back page)

Leaching Nitrates

(Continued from page 7)

Maybe the City could modify and couple the plan to expand Jimmy Clay golf course into a remediation effort. ERM recommended that Jimmy Clay direct the landscaping of the new course so that the "hot" soils in the sludge pits could be stockpiled, set aside, and used only as top dressing on the fairways and tee boxes. The plan was to allow the new nitrogen-hungry golf course grasses to denitrify the contaminated soils. If this failed to show the result of decreasing nitrate concentrations in the spring water, ERM recommended drilling wells into the shallow, nutrient-rich alluvial aquifer to pump this liquid fertilizer up to the grasses on the course. Cooperation between City departments was outstanding; ERM staff identified the hot spots, Water and Wastewater paid well-drilling and additional landscaping costs, and PARD's Golf Division directed the remediation in conjunction with the construction of their new course, now called Roy Kizer golf course.

The situation looked shaky for a while. The problem was exacerbated when a leak in one of Roy Kizer's ponds appeared to increase the flow from the springs, while the nitrate concentrations were still as high as ever. A meeting between ECSD, PARD and W & WW ensued. Plans were made to patch the leaking pond and use the recently drilled, shallow groundwater wells to pump the nitrogen-rich waters up to the grasses on Roy Kizer. However, in the last few months, samples analyzed by both ECSD and PARD have shown a dramatic decrease in the nitrate concentration from the polluted springs. Seven consecutive weekly samples analyzed by PARD Golf staff have come back around 10mg/1.

Did our remediation really work? Only time and more sample analyses will tell. But, emotions are less mixed at this point, and if the pollution was abated, all of us who worked on this case of the leaching nitrates can finally close the book on this one and feel good about a story with a happy ending. ✲

This newsletter is compiled and written in the Water Planning and Assessment Division, with editorial and production assistance from the Public Information & Publications Division. Please contact Texas Watch at (512) 239-4720 if you have questions or comments about this publication, or if you would like to be added to the mailing list.

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